# THE LINUM BAHAMENSE COMPLEX

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Populations of flax, disjunct about 1000 miles from their nearest relatives in Mexico and western Texas, have been found on five of the Bahama Islands: Abaco, Andros, Eleuthera, Grand Bahama and New Providence. Small (1907) recognized four species. Recently (1963) I reduced these to one species, *L. bahamense*, with three varieties. One of these, var. *corallicola*, is conspicuously different in being densely pubescent throughout. The other two, var. *bahamense* and var. *bracei* are glabrous and were believed to be distinguished from one another by a series of more or less minor features. It was recognized, however, that, particularly on Grand Bahama, where the two varieties grow together, numerous intermediates could be found.

I have now had the opportunity to collect var. *bracei* from the type locality on Grand Bahama, var. *corallicola* from both Grand Bahama and Andros, and var. *bahamense* from Grand Bahama, Andros and New Providence; to grow them in the greenhouse; and to make a number of crosses.

All of the populations have been found to have a haploid number of 34 chromosomes. The basic number for the segment of the genus to which *L. bahamense* belongs is $n = 18$, so that the island populations are interpreted as aneuploid derivatives from an unknown tetraploid ancestor.

The differences in habit between var. *bracei* and var. *bahamense*, which appeared fairly marked on the comparatively few herbarium specimens previously available, disappear completely when these plants are grown together and, therefore, must be due to local environmental differences or season of collection. Crosses between the two are completely fertile and pairing at meiosis in the offspring is entirely normal. Not only are remaining minor differences between the two populations quite lost among the various greenhouse-grown plants and their offspring, but now a fairly large series of collections from Andros and New

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Providence Islands, where var. *bahamense* was thought to be the only entity, reveals "var. *bracei*" features intermixed. It seems unnecessary, if not impossible, to try to distinguish the two varieties and I propose that they be combined.

Until recently I knew of but three collections of var. *corallicola*, but, in 1965, I found that near San Andros, Andros Island, it was intermixed with the glabrous plant (var. *bahamense*) as a very common roadside weed. Crosses between a pubescent plant and several glabrous plants uniformly yielded only pubescent offspring. The hybrids are completely fertile and pairing of chromosomes at meiosis is entirely normal. Self-pollination of these $F_1$ plants give $F_2$ generation ratios of approximately 3 pubescent: 1 glabrous (74 plants examined). No plants intermediate in hairiness have appeared and it is quite clear that a very simple inheritance, probably a single gene controls this character. Therefore, in spite of the fact that pubescence is a very conspicuous feature, var. *corallicola* should be treated only as a form of *L. bahamense*.

When this is done, the complete synonymy for *L. bahamense* is then as follows:

**Linum bahamense** Northrop, Mem. Torr. Club **12**: 42. 1902.
forma **bahamense**.
*Cathartolinum bahamense* (Northrop) Small, North Amer. Flora **25**: 75. 1907.
*Cathartolinum bracei* Small, *loc. cit.* 1907.
*Cathartolinum lignosum* Small, *loc. cit.* 1907.
*Linum lignosum* (Small) Winkl. in Engl. & Prantl, Natürl. Pflanzenfam. ed. 2, 19a: 116. 1931.
*Linum bracei* (Small) Winkl. *loc. cit.* 1931.
*Linum bahamense* var. *bracei* (Small) Rogers, Brittonia **15**: 107. 1963.

**Linum bahamense** forma **corallicola** stat. nov.
*Cathartolinum corallicola* Small, North Amer. Flora **25**: 74. 1907.

*Linum corallicola* (Small) Winkl. in Engl. & Prantl, Natürl. Pflanzenfam. ed 2, 19a: 116. 1931.
*Linum bahamense* var. *corallicola* (Small) Rogers, Brittonia **15:** 107. 1963.

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## LITERATURE CITED

ROGERS, C. M. 1963. Yellow flowered species of *Linum* in eastern North America. Brittonia **15:** 97-122.
SMALL, J. K. 1907. Linaceae in North Amer. Flora **25:** 67-87.